

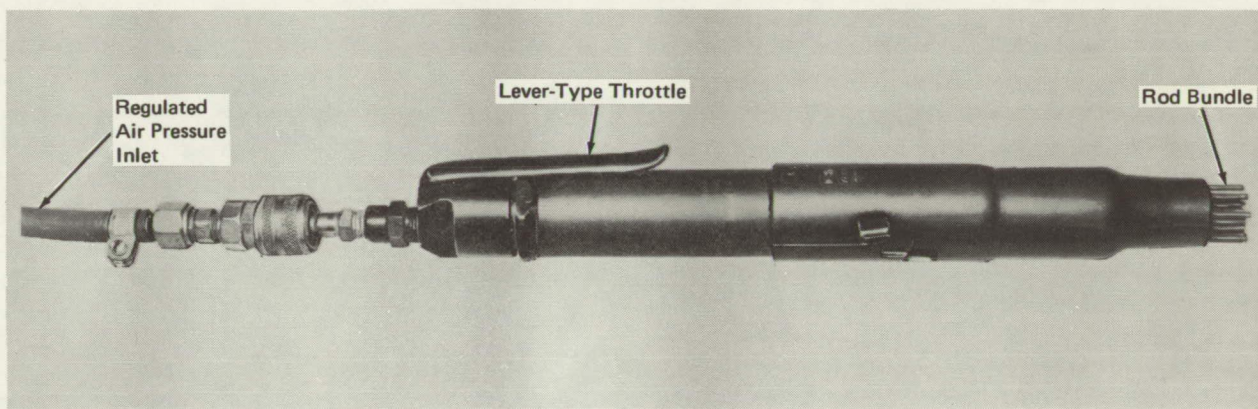
# NASA TECH BRIEF

## *Marshall Space Flight Center*



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### Mechanical Rod Peening



Pneumatic Peening Gun

A tool for the mechanical rod peening of ductile materials has been developed. The tool is inexpensive and gives repeatable results. The tool (see figure) is a modified commercially-available rod-type weld slag removal gun. It is pneumatically-operated by a regulated compressed air supply.

The modification consists of grinding appropriate radii on the rod ends. Radii are selected in accordance with the material to be peened, and the air pressure is then regulated to provide the desired intensity. In one instance, the gun has a bundle of 19 rods, each 0.032 cm (1/8 in.) in diameter. The bundle is driven forward by a pneumatic mandrel and is returned by spring force to provide a reciprocating motion of 4600 blows per minute. Maximum air pressure is limited to 62 N/cm<sup>2</sup> (90 psi).

The peening gun is calibrated to provide the desired intensity by using the standard Almen strip method (Mil. Spec. MIL-S-13165). Uniform intensity is achieved during peening by holding the gun normal to the surface of the material.

#### Note:

Requests for further information may be directed to:  
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Reference: B74-10237

#### Patent status:

This invention is owned by NASA, and a patent application has been filed. Inquiries concerning non-exclusive or exclusive license for its commercial development should be addressed to:

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